

# Cost/Benefit of Risk-Informed Fire Protection

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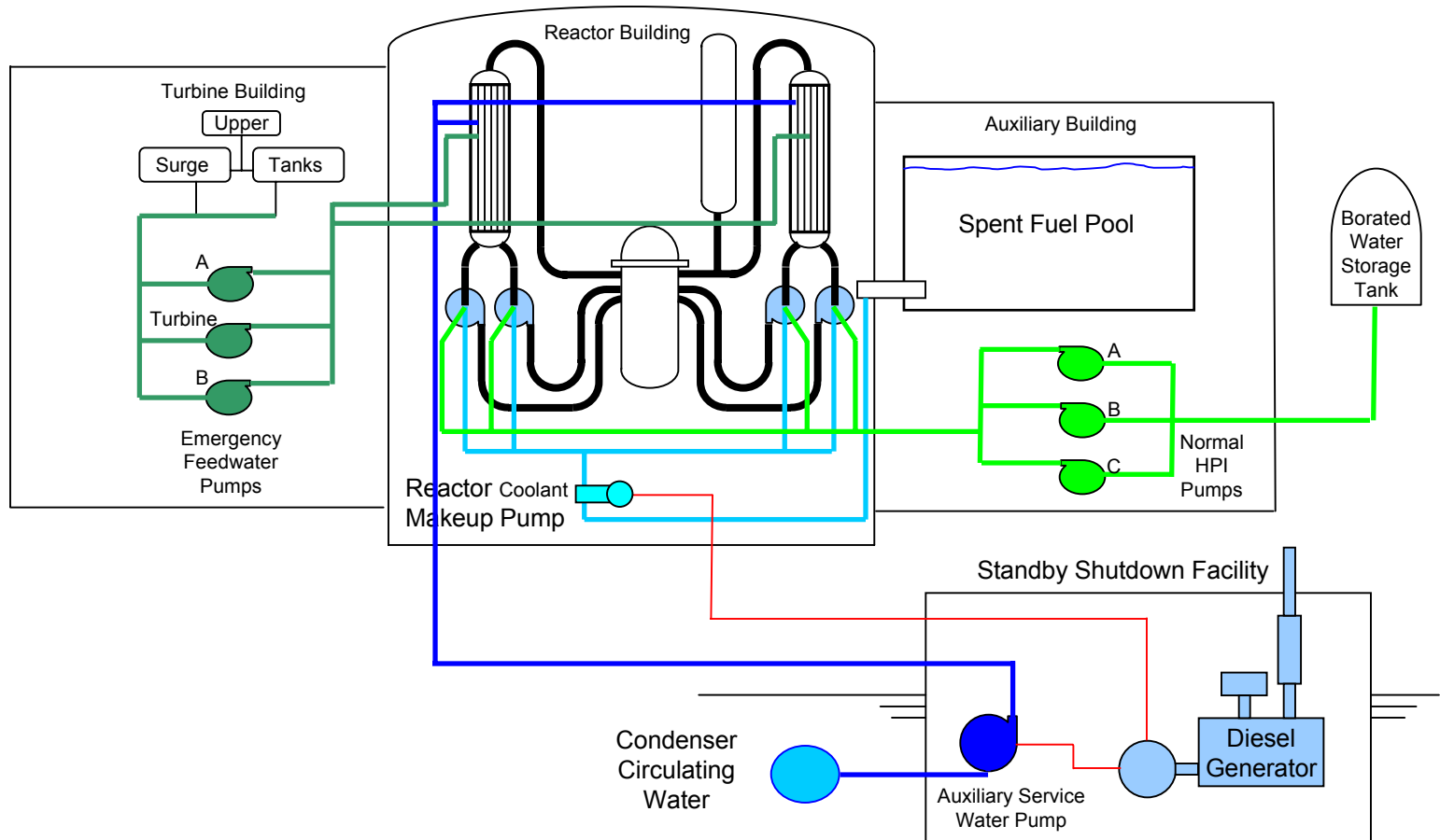
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# Introduction

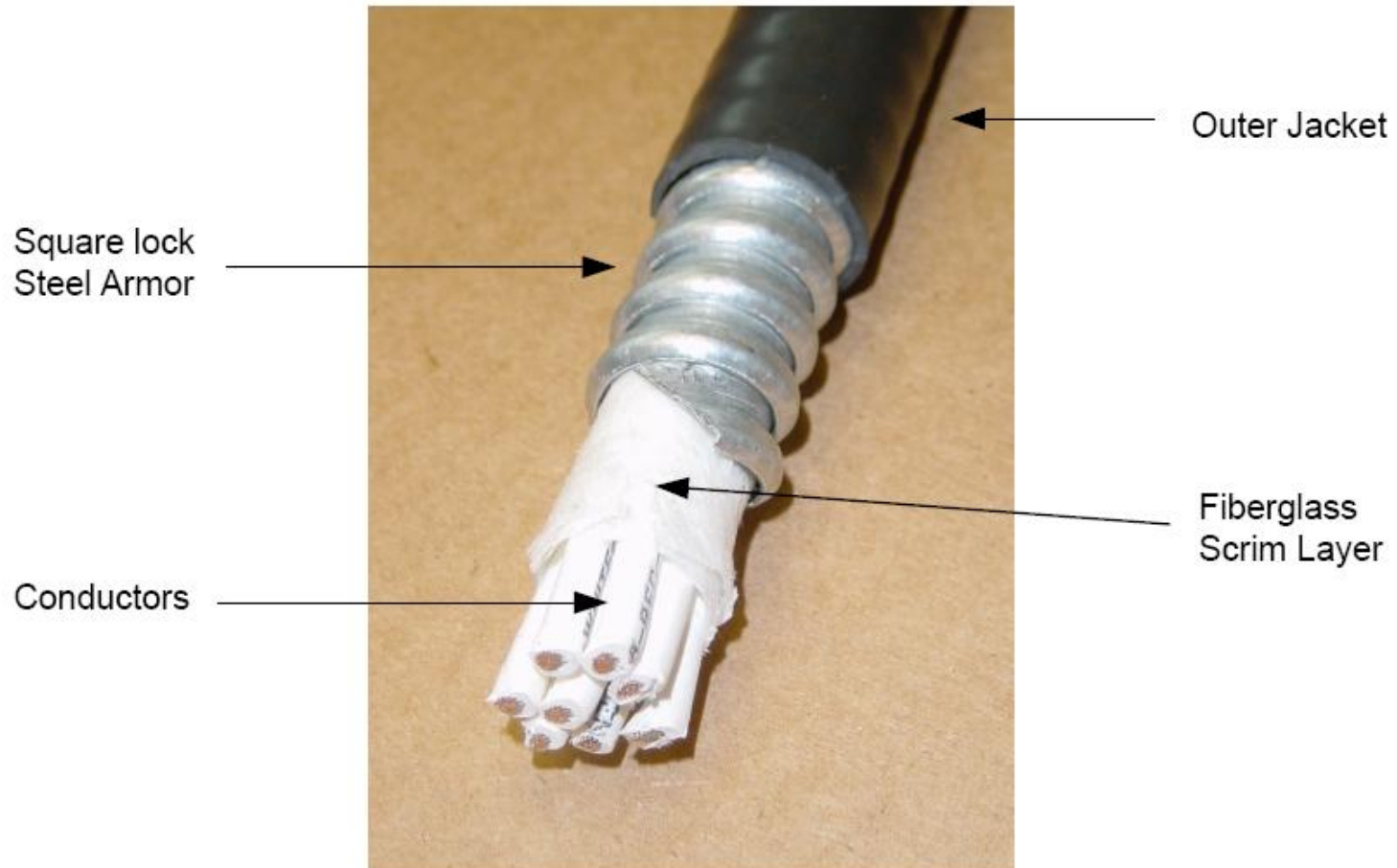
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- Like many plants, Duke Power developed a unique approach to meet Appendix R Safe Shutdown requirements. Two Duke-specific attributes include:
  - Standby Shutdown Facility (SSF)
  - Armored Cable
- A unique approach is common in the industry:
  - Plants not originally designed to meet App. R
  - Parts of App. R can be “interpreted”
- Unique Appendix R approach combined with changing regulatory expectations were major factors when considering NFPA-805, Risk-Informed Fire Protection.

# Standby Shutdown Facility



# Armored Cable Construction



**Figure 5-12**  
**Armored Cable Construction**

# Cost Reduction

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- Primary Savings:
  - Modifications only needed when they support risk significant improvements and maintain adequate defense in depth.
  - Plant Modifications may be required to support:
    - New multiple spurious operation requirements (RIS 2004-03).
    - Proposed III.G.2 manual actions rulemaking.
- Other cost reductions are possible, but less important.

# Safety Focus

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- ❑ Spurious Operation:
  - Focus plant License Basis on high risk multiple spurious.
  - Can factor plant response based on Risk factors:
- ❑ Procedural Actions:
  - Fire Response Procedures will focus on Risk-Important actions:
- ❑ Monitoring:
  - System availability and Operational parameters affecting fire risk will be tracked.

# Regulatory Environment

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- Regulatory Expectations continue to change:
  - RIS-2004-03 (multiple spurious)
  - III.G.2 manual Actions Rulemaking.
  
- Enforcement Discretion allows us to focus on correcting issues, rather than focusing on responding to enforcement issues
  
- Transition provides us the opportunity to clean up 20 year old license basis.

# Conclusions

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- ❑ Duke Plants, like many others, have a unique approach for meeting the Appendix R Safe Shutdown requirements.
- ❑ NFPA-805, Risk-Informed Fire Protection, provides a clear regulatory process and flexibility for addressing further changes, given increased and changing regulatory requirements.
- ❑ Unique aspects at other plants added with new regulatory requirements would be major considerations for any plant considering NFPA-805.